

# BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE ROADMAP – QUANTITATIVE REASONING CATEGORY III/IV

120 Total Units Required

Minimum Number of Units in the Major: 65

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult your Degree Planner (<https://registrar.sfsu.edu/degreeplanner/>) and an advisor for further guidance.

To avoid taking additional units, it is recommended that you meet the SF State Studies (AERM, GP, ES, SJ) requirements within your GE or major.

Course	Title	Units
<b>First Semester</b>		
GEOG 160	Introduction to Environmental Science (Major Lower-Division Core, GE 5B, GE 5C, ES, GP)	4
MATH 197	Prelude to Calculus I (Prerequisite for MATH 226) <sup>1</sup>	3
GE Area 1: English Communication - Take Two		6
SF State Studies or University Elective		3
<b>Units</b>		<b>16</b>
<b>Second Semester</b>		
CHEM 180	Chemistry for Energy and the Environment (Major Lower-Division Core, ES)	3
Select One (Major Lower-Division Core):		3-4
ERTH 112	Our Dynamic Earth Lecture and Lab (GE 5A, GE 5C, ES)	
GEOG 101	Our Physical Environment (GE 5A, ES)	
Select One (Major Lower-Division Core):		3
ENVS 130	Environmental Studies (ES)	
GEOG 102	The Human Environment (GE 4, ES, GP)	
MATH 198	Prelude to Calculus II (Prerequisite for MATH 226, GE 2) <sup>1</sup>	3
GE Area 1A: English Composition <sup>2</sup>		3
<b>Units</b>		<b>15-16</b>
<b>Third Semester</b>		
Select One (Major Lower-Division Core):		3

BIOL 150	The World of Plants (GE 5B, GE 5C, ES)	
BIOL 170	Animal Diversity (GE 5B, ES)	
BIOL 313	Principles of Ecology	
ENV 205	Our Environment Through Data (Major Lower-Division Core)	3
MATH 226	Calculus I (Major Lower-Division Core, GE 2) <sup>1</sup>	4
GE Area 3: Arts and Humanities		3
GE Area 4: Social and Behavioral Sciences with USH		3
<b>Units</b>		<b>16</b>
<b>Fourth Semester</b>		
Select One Set of Courses (Major Lower-Division Core):		4
PHYS 111 & PHYS 112	General Physics I and General Physics I Laboratory (GE 5A, GE 5C)	
PHYS 220 & PHYS 222	General Physics with Calculus I and General Physics with Calculus I Laboratory (GE 5A, GE 5C)	
GE Area 3: Arts and Humanities		3
SF State Studies or University Elective - Take Two		6
<b>Units</b>		<b>13</b>
<b>Fifth Semester</b>		
ENV 500GW	Physical and Human Dimensions of Climate Change - GWAR (Major Upper-Division Core)	3
GEOG 603	Introduction to Geographic Information Systems (Major Upper-Division Core)	3
GE Area 6: Ethnic Studies ( <a href="https://bulletin.sfsu.edu/undergraduate-education/general-education/areasix/">https://bulletin.sfsu.edu/undergraduate-education/general-education/areasix/</a> )		3
GE Area 2UD: Upper-Division Mathematical Concepts or GE Area 5UD: Upper-Division Sciences		3
U.S. and California Government ( <a href="https://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg">https://bulletin.sfsu.edu/undergraduate-education/american-institutions/#usg</a> )		3
<b>Units</b>		<b>15</b>
<b>Sixth Semester</b>		
Major Environmental Science Electives (11-12 Units Total) - Take One <sup>3</sup>		3-4
Major Environmental Management Electives (11-12 Units Total) - Take One <sup>4</sup>		3-4
Major Analytical Methods Electives (7-8 Units Total) - Take One <sup>5</sup>		3-4
GE Area 3UD: Upper-Division Arts or Humanities		3
SF State Studies or University Elective		3
<b>Units</b>		<b>15-18</b>

**Seventh Semester**

Major Environmental Science Electives (11-12 Units Total) - Take One <sup>3</sup>	3-4
Major Environmental Management Electives (11-12 Units Total) - Take One <sup>4</sup>	3-4
Major Analytical Methods Electives (7-8 Units Total) - Take One <sup>5</sup>	3-4
GE Area 4UD: Upper-Division Social and Behavioral Sciences	3
SF State Studies or University Elective	3
<b>Units</b>	<b>15-18</b>

**Eighth Semester**

ENV 690	Capstone Seminar (Major Capstone)	3
Major Environmental Science Electives (11-12 Units Total) – Take Two <sup>3</sup>		6-7
Major Environmental Management Electives (11-12 Units Total) – Take Two <sup>4</sup>		6-7
<b>Units</b>		<b>15-17</b>
<b>Total Units</b>		<b>120-129</b>

<sup>1</sup> Students should use their [Pathway/Category \(https://gatorsmartstart.sfsu.edu/pathways/\)](https://gatorsmartstart.sfsu.edu/pathways/) to determine the appropriate GE 2 course option. For directions on how to view your Pathway/Category, visit [how to find your pathway \(https://gatorsmartstart.sfsu.edu/howtofindyourpathways/\)](https://gatorsmartstart.sfsu.edu/howtofindyourpathways/). Questions? Contact [Gator Smart Start \(https://gatorsmartstart.sfsu.edu/\)](https://gatorsmartstart.sfsu.edu/)

<sup>2</sup> Students should use their [Pathway/Category \(https://gatorsmartstart.sfsu.edu/pathways/\)](https://gatorsmartstart.sfsu.edu/pathways/) to determine the appropriate GE 1A course option. For directions on how to view your Pathway/Category, visit [how to find your pathway \(https://gatorsmartstart.sfsu.edu/howtofindyourpathways/\)](https://gatorsmartstart.sfsu.edu/howtofindyourpathways/). Questions? Contact [Gator Smart Start \(https://gatorsmartstart.sfsu.edu/\)](https://gatorsmartstart.sfsu.edu/)

<sup>3</sup> **Environmental Science Electives (11-12 units)**  
A full list of courses that can fulfill this requirement can be found in the Degree Requirements (<https://bulletin.sfsu.edu/colleges/liberal-creative-arts/political-science/ba-political-science/#degreerequirementstext>). (<https://bulletin.sfsu.edu/colleges/science-engineering/environment/bs-environmental-science/#degreerequirementstext>)

<sup>4</sup> **Environmental Management Electives (11-12 units)**  
A full list of courses that can fulfill this requirement can be found in the Degree Requirements (<https://bulletin.sfsu.edu/colleges/liberal-creative-arts/political-science/ba-political-science/#degreerequirementstext>). (<https://bulletin.sfsu.edu/colleges/science-engineering/environment/bs-environmental-science/#degreerequirementstext>)

<sup>5</sup> **Analytical Methods Electives (7-8 units)**  
A full list of courses that can fulfill this requirement can be found in the Degree Requirements (<https://bulletin.sfsu.edu/colleges/liberal-creative-arts/political-science/ba-political-science/#degreerequirementstext>). (<https://bulletin.sfsu.edu/colleges/science-engineering/environment/bs-environmental-science/#degreerequirementstext>)